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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,741	12/28/2000	Tsuyoshi Shinohara	PM 276499 F 20039105	5544

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EXAMINER

LAM, THANH

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 11/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/749,741

Applicant(s)
Shinohara

Examiner
Thanh Lam

Art Unit
2834



— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE filed on 11/04/2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s): _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s): _____ 6) ☒ Other: attach fig. 5

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1,3,5,7,9,11,13,15, and 17 are rejected under 35 U.S.C. 102(a) as being anticipated by Kono (JP02000047130A).

Kono et al. disclose a light deflecting electric motor comprising: a stator assembly including a base (100), a fixed shaft (103) fixed to the base and a stator mounted on the base; a rotor assembly including a rotating member rotatably mounted on a plurality of bearings (102 and 103 formed bearings) further mounted on the fixed shaft, a polygon mirror (101) mounted on the rotating member and having an outer circumferential surface and a rotor mounted on the rotating member, the rotor assembly having a center of gravity (G2) located between the bearings, the rotor assembly being disposed so that a plane (see attached fig. 5 Marked in red ink) which is generally perpendicular to a center of rotation of the rotor assembly and passes the center of gravity of the rotor assembly passes an inside of the polygon mirror; and a balancing plane provided in the vicinity of said plane.

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Regarding claim 3, Kono et al. disclose the rotor assembly has a balancing groove (109b) formed in a portion thereof located below the bearings.

Regarding claim 5, Kono et al. disclose the rotor is generally annular and includes a rotor magnet (105) radially opposed to the stator with respect to the rotor and a rotor yoke (105a) provided on the rotating member to hold the rotor magnet, and the balancing groove is formed in the rotor yoke.

Regarding claim 7, Kono et al. disclose the rotor is generally annular and includes a rotor magnet radially opposed to the stator with respect to the rotor and a rotor yoke provided on the rotating member to hold the rotor magnet, and the balancing groove is formed in the rotating member.

Regarding claim 9, Kono et al. disclose the rotor is generally annular and includes a rotor magnet radially opposed to the stator with respect to the rotor and a rotor yoke provided on the rotating member to hold the rotor magnet, and the balancing groove is defined between the rotating member and the rotor yoke.

Regarding claim 11, Kono et al. disclose the polygon mirror is generally annular and has a reflecting surface, and the balancing groove (109a) is disposed inside the reflecting surface, and the balancing groove is disposed inside relative to the reflecting surface of the polygon mirror.

Regarding claim 13, Kono et al. disclose the polygon mirror is generally annular and has a reflecting surface, and the balancing groove is disposed inside relative to the reflecting surface of the polygon mirror.

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Regarding claim 15, Kono et al. disclose the polygon mirror is generally annular and has a reflecting surface, and the balancing groove is disposed inside relative to the reflecting surface of the polygon mirror.

Regarding claim 17, Kono et al. disclose the polygon mirror is generally annular and has a reflecting surface, and the balancing groove is disposed inside relative to the reflecting surface of the polygon mirror.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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4. Claims 2,4,6,8,10,12,14,16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kono et al. In view of Norris.

Kono et al. disclose every aspect of the claimed invention except for each bearing comprises a ball bearing including a number of rolling members each made of ceramic.

Norris discloses each bearing comprises a ball bearing (20) including a number of rolling members each made of ceramic.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to the bearing of Kono et al. And replace the ball bearing including a number of rolling members each made of ceramic as taught by Norris in order to reduce the wearing of the bearings.

Regarding claim 4, the proposal in combination of Kono et al. and Norris disclose the rotor assembly has a balancing groove formed in a portion thereof located below the bearings.

Regarding claim 6, the proposal in combination of Kono et al. and Norris disclose the rotor is generally annular and includes a rotor magnet radially opposed to the stator with respect to the rotor and a rotor yoke provided on the rotating member to hold the rotor magnet, and the balancing groove is formed in the rotor yoke.

Regarding claim 8, the proposal in combination of Kono et al. and Norris disclose the rotor is generally annular and includes a rotor magnet radially opposed to the stator with respect to the rotor and a rotor yoke provided on the rotating member to hold the rotor magnet, and the balancing groove is formed in the rotating member.

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Regarding claim 10, the proposal in combination of Kono et al. and Norris disclose the rotor is generally annular and includes a rotor magnet radially opposed to the stator with respect to the rotor and a rotor yoke provided on the rotating member to hold the rotor magnet, and the balancing 5 groove is defined between the rotating member and the rotor yoke.

Regarding claim 12, the proposal in combination of Kono et al. and Norris disclose the polygon mirror is generally annular and has a reflecting surface, and the balancing groove is disposed inside relative to the 15 reflecting surface of the polygon mirror.

Regarding claim 14, the proposal in combination of Kono et al. and Norris disclose the polygon mirror is generally annular and has a reflecting surface, and the balancing groove is disposed inside relative to the reflecting surface of the polygon mirror.

Regarding claim 16, the proposal in combination of Kono et al. and Norris disclose the polygon mirror is generally annular and has a reflecting surface, and the balancing groove is disposed inside relative to the reflecting surface of the polygon mirror.


Regarding claim 18, the proposal in combination of Kono et al. and Norris disclose the polygon mirror is generally annular and has a reflecting surface, and the balancing groove is disposed inside relative to the reflecting surface of the polygon mirror.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (703) 308-7626. The fax phone number for this Group is (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0656.



Thanh Lam

Patent Examiner

(7)

【図5】

A plane
perpendicular to
center

